



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of
NAGASHIMA, et al.

Confirmation No. 4799
Atty. Docket No. 46275

Appln. No.: 10/073,213
Filing Date: February 13, 2002

Group Art Unit: 1794
Examiner: Shewareged, B.

Title: INK-JET RECORDING MATERIAL

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June 20, 2008

RESPONSE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated March 26, 2008, reconsideration and allowance of the subject application are respectfully requested in view of the following remarks.

The Office Action states that claims 14-16 and 18-33 are allowed, and claims 4-6 are objected to, but would be allowable if rewritten in complete independent form.

The applicants respectfully traverse the rejection of claims 1, 7-11 and 13 under 35 USC 103(a) in view of Anderson et al taken with Sugiyama et al. The cited references do not make the presently claimed invention to be obvious.

The presently claimed invention is directed to an ink-jet recording material wherein an important feature is that the ink-receptive layer contains at least one of an inorganic pigment and an organic pigment (see claim 1, as revised pursuant to the Amendment filed February 26, 2008).

The Office Action states at page 3, paragraph 5 and at page 6, paragraph 15, that:

“Anderson further teaches that the ink receptor media comprises inorganic salts (col. 9, line 62 thru col. 10, line 25). It is very well established that these inorganic salts are in particulate form.”

This implies that the Examiner believes that the inorganic salt disclosed in Anderson corresponds to “an inorganic pigment” recited in present claim 1. However, this would be an erroneous interpretation, as would be understood by a person of ordinary skill in the art.

Anderson discloses an ink fixing agent that is in a recording material, at column 9, line 54 to column 10, line 30. The reference discloses the following at column 9, lines 55-57:

“(A) material that provides further water resistance and pigment or dye fixing may be provided in or over part or all of the ink receptor”

Anderson discloses the following at column 9, lines 62-63:

“(T)hese materials are primarily cationic polymers and/or inorganic salts having a multivalent cation.”

Anderson discloses the following at column 10, lines 2-4:

“(T)he metal salts are soluble in water for both preparing coating solutions and during imaging”

A person of ordinary skill in art would understand that the above disclosures clearly show that the inorganic salts of Anderson, are water-soluble compounds. In deed, the exemplified inorganic salts disclosed at column 10, lines 14-25 are all water-soluble.

It is well known by the ordinary artisan that “pigment” is a general name of a colored material (including white colored material) which is substantially insoluble in water or an organic solvent. Further, it is well known that inorganic salts contain a water-insoluble compound or compound of poor aqueous solubility, such as calcium carbonate and magnesium carbonate. Inorganic salts also contain a water-soluble compound such as calcium chloride and magnesium sulfate. The water-insoluble or poorly soluble inorganic salts are contained in a so-called “inorganic pigment”. In contrast, the inorganic salts described in Anderson et al. are water-soluble, and accordingly these materials do not correspond to “an inorganic pigment” recited in claim 1 of the present application.

Thus, in Anderson, there is no disclosure that the inorganic salts contained in the recording material are inorganic pigments and no disclosure or suggestion of the inorganic pigment used in the presently claimed invention. Therefore, even if Anderson et al. is combined with Sugiyama et al., or further combined with Kitamura et al., the constitution of the presently claimed invention (e.g., in claim 1) would not result there from when considered by a person of ordinary skill in the art.

When considering the presently claimed invention, as recited for instance in claim 1, then based on the above discussed differences compared to the combination of references, specifically excellent effects can be obtained. These beneficial effects include the prevention of back transcription of ink and the lowering of surface glare where outer light is reflected on the surface of the recording material, as described at page 11, lines 15-20 of the present specification and Table 1 on page 30 of the specification. The applicants submit that such excellent, new and unexpected effects can from consideration of the cited references.

Further, from the results shown in Table 1 on page 30 of the present specification, the ordinary artisan would further understand that by the ink-receptive layer of the ink-jet recording material containing an inorganic pigment (specifically used inorganic pigment in working examples is wet process silica), then the feeding property can be also improved. That is, by comparing the results in the present application of Example 1 (wet process silica is contained in the ink-receptive layer) and Example 7 (no wet process silica is contained in the ink-receptive layer), it can be understood that the feeding property is significantly improved. Moreover, by comparing the results of Example 3 or 4 (both of which contain wet process silica as an inorganic pigment or polystyrene particles as an organic pigment, as described at page 11, line 26 of the present specification) and Example 2 (no wet process silica is contained in the ink-receptive layer), it can be understood that the feeding property is significantly improved.

The presently claimed invention is clearly distinguished over the teachings of Anderson et al.

The applicants submit that the teachings of Sugiyama et al. do not remedy the many deficiencies of Anderson et al. described above.

Thus, in view of the above discussions and experimental evidence, the applicants submit that the presently claimed invention (as for example, recited in claim 1) is fully allowable under Section 103(a) in view of the combined teachings of Anderson et al. and Sugiyama et al.

The applicants respectfully traverse the rejection of claims 1, 3, 7-11 and 13 under 35 USC 103(a) over Anderson et al., Sugiyama et al. and Kitamura et al. These references do not make the presently claimed invention to be obvious.

The teachings of Anderson et al. have been thoroughly distinguished from the presently claimed invention, pursuant to the above in-depth analysis and discussion. The applicants submit that the teachings of Sugiyama et al and Kitamura et al. do not remedy the many deficiencies of Anderson et al.

Accordingly, in view of the above discussions and experimental evidence, the applicants submit that the presently claimed invention is fully allowable under Section 103(a) in view of the combined teachings of Anderson et al., Sugiyama et al., and Kitamura et al.

In view of the above, the applicants submit that this application is in condition for allowance and a Notice to that effect is respectfully requested.

Respectfully submitted,

Manelli Denison & Selter, PLLC

By Paul E. White, Jr.

Paul E. White, Jr.

Reg. No. 32,011

Tel. No.: (202) 261-1050

Fax No.: (202) 887-0336

2000 M Street, N.W.
Seventh Floor
Washington, D.C. 20036
(202) 261-1000